What is claimed is:

## CLAIMS

1. A method for exchanging information frames over a network (N) between devices (D), each device comprising a communication circuit (C) connected to a processing unit ($P_A$) and comprising addresses ($X_1$, ..., $X_J$), each address being associated with a transmission or reception indicator, a single device comprising a same address associated with a transmission indicator, wherein each address is associated with a memory containing an information frame that can be modified and/or read by the processing unit, and comprising the steps of:

having a master device (M) periodically transmit addresses;

having the communication circuit of the device for which the address transmitted by the master device is associated with a transmission indicator transmit the information frame contained in the memory associated with said address and provide the processing unit with an identifier (I) of said address; and

having each communication circuit of a device for which the address transmitted by the master device is associated with a reception indicator write into the memory associated with said address of said information frame and provide the processing unit with an identifier (I) of said address.

2. The method of claim 1, wherein the processing units ($P_A$), except for the processing unit of the master device (M), can neither read nor modify the addresses ($X_1$, ..., $X_J$) and the transmission and/or reception indicators of the communication circuits (C) to which they are connected.

3. The method of claim 1, wherein all communication circuits (C) further comprise a first address ($X_{J+2}$) identical for all devices (D) and associated with a transmission indicator and a second address ($X_{J+1}$) identical for all devices and associated with a reception indicator, the connection of a new device (D') to the network (N) comprising the steps of:

having the master device (M) periodically transmit the first address;

having the communication circuit (C) of the new device, upon reception of the first address, transmit an identification frame (CS_Transmission);

having the master device successively transmit the second address and a parameterizing frame (CS_Reception) defined based on the identification frame;

having the communication circuit of the new device, upon successive reception of the second address and of the parameterizing frame, modify its addresses ($X_1$, ..., $X_J$) and reception and/or transmission indicators based on the parameterizing frame.

4. The method of claim 3, wherein each device (D) comprises a specific identification number (U) stored in the communication circuit (C), the identification frame (CS_Transmission) transmitted by the communication circuit of the new device (D') comprising the specific identification number of said new device, the parameterizing frame (CS_Reception) transmitted by the master device (M) comprising the specific identification number of said new device.

5. The method of claim 3, wherein the communication circuit (C) of the new device (D') transmits no data as long as it has not received the first address ($X_{J+2}$).

6. The method of claim 3, wherein the communication circuit (C) of each device (D) comprises a privilege indicator (Privilege Bit P) at a first value when the device is likely to transmit addresses ($X_1$, ..., $X_N$) over the network (N) and at a second value otherwise, said privilege indicator being set to the first or to the second value by the communication circuit of the new device (D') based on the parameterizing frame (CS_Reception).

7. A device (D) intended to be connected to a network (N), comprising a communication circuit (C) and connected to a processing unit ($P_A$), comprising an address table (Address), a register table (Data), each register ($R_1$, ..., $R_J$) in the register table being associated with an address ($X_1$, ... $X_J$) in the address table and a direction table comprising one

direction indicator per address, said processing unit being capable of reading information frames stored into the registers or writing information frames in the registers, said communication circuit being capable, upon reception of a request received from the network and corresponding to one of said addresses, of transmitting over the network the information frame stored in the register associated with said address if the corresponding direction indicator is of a first determined type, or of writing an information frame received from the network into the register associated with said address if the corresponding direction indicator is of a second determined type, and being capable of transmitting to the processing unit an identifier of the register associated with said address.

8. The device (D) of claim 7, wherein the address table (Address) comprises a first address ($X_{J+2}$) identical for all the devices connected to the network (N), the direction table (Direction) comprising a direction indicator associated with said first address of the first type, the communication circuit (C) of the device being adapted to transmitting said addresses ($X_1$, ... $X_J$) and the associated direction indicators over the network (N) upon reception of said first address.

9. The device (D) of claim 8, wherein the address table (Address) comprises a second address ($X_{J+1}$) identical for all circuits connected to the network (N), the direction table (Direction) comprising a direction indicator associated with said second address of the second type, and being capable, upon successive reception of the second address and of a parameterizing frame (CS_Reception), of modifying the addresses ($X_1$, ..., $X_J$) and the associated direction indicators based on the parameterizing frame.